

REMARKS

Claims 1-11 stand rejected. Claims 1-11 are amended. No new subject matter is added. Claims 1-11 remain pending. Reconsideration and allowance of the pending claims is respectfully requested in light of the following remarks.

Claim Rejections – 35 USC § 112

Claims 4, 8, and 11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. This rejection is respectfully traversed.

The applicant initially notes that claims 1-4 are directed towards a method, claims 5-8 towards an apparatus, and claims 9-11 towards a system. Claims 1-4 and 6-8 were amended to correct problems regarding a lack of antecedent basis. Claims 7-8 were also amended to properly reflect that they are directed towards an apparatus.

Regarding claim 4, since the claim is directed toward a method, the applicant believes that the Examiner's comments regarding the recitation of sufficient structure is inapplicable in this case. Method claims are typically composed entirely of functional language, with no "structure" present at all. Functional language does not, in and of itself, render a claim improper. In re Swinehart, 439 F.2d 210 (CCPA 1971).

Regarding claim 8, it is amended to recite the apparatus as claimed in claim 5, wherein the optical system controller is further adapted to analyze the resist film heat treating temperature data and an error value in a pattern size. This amendment is supported by the original application at FIG. 3 and at page 7, lines 2-15, where it is explained that a pattern size error value is input at terminal IN2 and is used by the main controller 14 to adjust the exposure time. It is further explained at page 6, lines 9-22, how temperature data is supplied to the main controller at the input terminal IN1.

FIG. 4 is a graph showing the change in linewidth according to an exposure time. Page 7, lines 13-15 explain how an error value of +/- 10 nm causes the exposure time to be adjusted by +/- .2 seconds. Thus, in light of the specification, one of ordinary skill would realize how an error value in pattern size can be analyzed and used to adjust the exposure time, thereby achieving the desire linewidth. As far as the Examiner's comment regarding the lack of "means" to detect the information regarding "an error value in a pattern size" is concerned, that particular limitation is not necessary because it is not part of the applicant's invention. The applicant explains that data regarding the pattern size of the wafer W is input

at terminal IN2 (page 7, lines 8-10). Thus, it can be safely assumed that such data is provided by detection means that are well known to the prior art.

Consequently, when viewed in light of the specification, the applicant submits that these particular limitations of claim 8 are not indefinite and vague.

Regarding claim 11, its limitations are substantially similar to claim 8. Consequently, the applicant submits that it is not indefinite and vague for at least the same reasons as claim 8.

Claim Rejections – 35 USC § 103

Claims 1-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,051,349 to Yoshioka et al. (hereafter, 'Yoshioka'). The applicant respectfully traverses.

Claims 1, 5, and 9, recite, *inter alia*, determining a resist film exposure time responsive to the resist film temperature data, an optical system controller adapted to determine and control a resist film exposure time responsive to the resist film heat treating temperature data received from the resist coating and developing apparatus, and a controller configured to determine and control a resist film exposure time responsive to the resist film temperature data, respectively. Thus, each claim recites controlling the exposure time in response to temperature data.

The Examiner has agreed that Yoshioka does not expressly disclose determining the exposure time of the exposure control apparatus based on the resist film temperature data from the resist coating and developing apparatus, but apparently indicates that this would be obvious to one of ordinary skill because Yoshioka teaches the relationship between the line width of the resist film and temperature data for resist coatings in FIGS. 7, 8, and 10 (Office Action, page 4).

This position, however, requires a claim interpretation that is inconsistent with the specification. Pending claims must be given the broadest reasonable interpretation consistent with the specification (MPEP 2111). The applicant teaches that initially calculated temperature values are replaced with practically measured temperature data after the baking processes are performed to adjust the exposure time (FIG. 3; page 6, line 23 – page 7, line 3). Although Yoshioka does correct the temperature of the resist solution (column 14, lines 50-52), this is done only when the detected value of the resist film thickness does not fall within an allowable range (column 14, lines 42-52), and not in response to practically measured temperature data.

Consequently, while calculating an initial exposure time based on Yoshioka's FIGS. 7, 8, and 10 may be obvious, replacing those initial values responsive to the resist film temperature data as claimed is not suggested, taught, or disclosed by Yoshioka. Yoshioka does not establish *prima facie* obviousness with respect to claims 1, 5, and 9 for at least this reason. Yoshioka does not establish *prima facie* obviousness with respect to claims 2-4, 6-8, and 10-11 for at least the same reason as claims 1, 5, and 9, respectively.

Conclusion

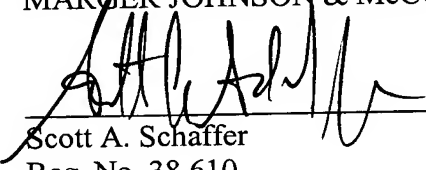
For the foregoing reasons, reconsideration and allowance of claims 1-11 of the application as amended is solicited. The Examiner is encouraged to telephone the undersigned at (503) 222-3613 if it appears that an interview would be helpful in advancing the case.

Respectfully submitted,

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Date: August 7, 2003



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